a handpiece assembly;

an RF electrode assembly coupled to a distal portion of the handpiece, the RF electrode assembly including a tissue interface surface; and

a cooling member positioned at least partially in the handpiece assembly and configured to provide evaporative cooling to at least a portion of the RF electrode assembly, wherein the RF electrode assembly is configured to provide evaporative cooling to a tissue positioned adjacent to the tissue interface surface.

33. The apparatus of claim 32, wherein the cooling member includes a pressurized fluid reservoir.

34. The apparatus of claim 32, further comprising:

a temperature sensor coupled to the RF electrode assembly.

35. The apparatus of claim 32, further comprising:

a feedback control configured to be coupled to an energy source and coupled to the RF electrode assembly.

36. The apparatus of claim 32, further comprising:

a feedback control coupled to the RF electrode assembly and the cooling member.

37. A treatment apparatus, comprising:

a handpiece assembly;

an RF electrode assembly coupled to a distal portion of the handpiece, the RF electrode assembly including at least one RF electrode and a semiconductor member coupled to the RF electrode; and

a cooling member positioned at least partially in the handpiece assembly and configured to provide cooling to at least a portion of the RF electrode assembly.

38. The apparatus of claim 37, wherein the semiconductor member is conductive.

39. The apparatus of claim 37, wherein the cooling member includes a pressurized fluid reservoir.

40. The apparatus of claim 37, further comprising:

a temperature sensor coupled to the RF electrode assembly.

41. The apparatus of claim 37, further comprising:

a feedback control configured to be coupled to an energy source and coupled to the RF electrode assembly.

42. The apparatus of claim 37, further comprising:
a feedback control coupled to the RF electrode assembly and the cooling member.

43. The apparatus of claim 37, wherein the semiconductor member has a conductivity in the range of 10^{-4} to $10^{3}(\text{ohm-cm})^{-1}$.

44. A treatment apparatus, comprising:
a handpiece assembly;
an RF electrode assembly coupled to a distal portion of the handpiece, the RF electrode assembly including at least one RF electrode and a semiconductor member coupled to the RF electrode;
a cooling member positioned at least partially in the handpiece assembly and configured to provide cooling to at least a portion of the RF electrode assembly; and
a pressure sensor coupled to the RF electrode assembly.

45. The apparatus of claim 44, wherein the cooling member includes a pressurized fluid reservoir.

46. The apparatus of claim 44, further comprising:
a temperature sensor coupled to the RF electrode assembly.

47. The apparatus of claim 44, further comprising:
a feedback control configured to be coupled to an energy source and coupled to the RF electrode assembly.

48. The apparatus of claim 44, further comprising:
a feedback control coupled to the RF electrode assembly and the cooling member.

49. A treatment apparatus, comprising:
a handpiece assembly;
an RF electrode assembly coupled to a distal portion of the handpiece, the RF electrode assembly including at least one RF electrode and a semiconductor member coupled to the RF electrode, the at least one RF electrode and semiconductor member configured to provide a uniform current density to a tissue interface surface of the RF electrode assembly; and
a cooling member positioned at least partially in the handpiece assembly and configured to provide cooling to at least a portion of the RF electrode assembly.

50. The apparatus of claim 49, wherein the cooling member includes a pressurized fluid reservoir.

51. The apparatus of claim 49, further comprising:
a temperature sensor coupled to the RF electrode assembly.

52. The apparatus of claim 49, further comprising:
a feedback control configured to be coupled to an energy source and coupled to the RF electrode assembly.

53. The apparatus of claim 49, further comprising:
a feedback control coupled to the RF electrode assembly and the cooling member.

54. A treatment apparatus, comprising:
a handpiece assembly;
an RF electrode assembly coupled to a distal portion of the handpiece, the RF electrode assembly including at least one RF electrode and a semiconductor member coupled to the RF electrode, the at least one RF electrode and semiconductor member, wherein an impedance of the RF electrode is larger at its periphery; and
a cooling member positioned at least partially in the handpiece assembly and configured to provide cooling to at least a portion of the RF electrode assembly.

55. The apparatus of claim 54, wherein the cooling member includes a pressurized fluid reservoir.

56. The apparatus of claim 54, further comprising:
a temperature sensor coupled to the RF electrode assembly.

57. The apparatus of claim 54, further comprising:
a feedback control configured to be coupled to an energy source and coupled to the RF electrode assembly.

58. The apparatus of claim 54, further comprising:
a feedback control coupled to the RF electrode assembly and the cooling member.

59. A treatment apparatus, comprising:
a handpiece assembly;

an RF electrode assembly coupled to a distal portion of the handpiece, the RF electrode assembly including a tissue interface surface, at least one active RF electrode and a semiconductor member coupled to the RF electrode;

a passive RF electrode;

a cooling member positioned at least partially in the handpiece assembly and configured to provide cooling to at least a portion of the RF electrode assembly; and

a feedback control coupled to the active RF electrode and the passive RF electrode, the feedback control providing an interruption of power delivery to the active RF electrode upon the occurance of an pre-determined event.

60. The apparatus of claim 59, wherein the cooling member includes a pressurized fluid reservoir.

61. The apparatus of claim 59, further comprising:

a temperature sensor coupled to the RF electrode assembly.

62. The apparatus of claim 59, further comprising:

a feedback control configured to be coupled to an energy source and coupled to the RF electrode assembly.

63. The apparatus of claim 59, further comprising:

a feedback control coupled to the RF electrode assembly and the cooling member.

64. A treatment apparatus, comprising:

a handpiece assembly;

an RF electrode assembly coupled to a distal portion of the handpiece, the RF electrode assembly including tissue interrace surface, at least one RF electrode and a semiconductor member coupled to the RF electrode;

a cooling member positioned at least partially in the handpiece assembly and configured to provide cooling to at least a portion of the RF electrode assembly; and

a feedback control coupled to the RF electrode and configured to maintain the RF electrode at a desired temperature without causing a shut down of power delivery to the RF electrode assembly due to a development of an excessive electrical impedance at the RF electrode assembly.

65. The apparatus of claim 64, wherein the cooling member includes a pressurized fluid reservoir.

66. The apparatus of claim 65, further comprising:

a temperature sensor coupled to the RF electrode assembly.

67. The apparatus of claim 66, further comprising:

a feedback control configured to be coupled to an energy source and coupled to the RF electrode assembly.

68. The apparatus of claim 67, further comprising:

a feedback control coupled to the RF electrode assembly and the cooling member.

69. A treatment apparatus, comprising:

a handpiece assembly;

an RF electrode assembly coupled to a distal portion of the handpiece, the RF electrode assembly including a tissue interface surface; and

a cooling member positioned at least partially in the RF electrode assembly and configured to provide evaporative cooling to at least a portion of the RF electrode assembly, wherein the RF electrode assembly is configured to provide evaporative cooling to a tissue positioned adjacent to the tissue interface surface.

70. A treatment apparatus, comprising:

a handpiece assembly;

an RF electrode assembly coupled to a distal portion of the handpiece, the RF electrode assembly including at least one RF electrode and a semiconductor member coupled to the RF electrode; and

a cooling member positioned at least partially in the RF electrode assembly and configured to provide cooling to at least a portion of the RF electrode assembly.

71. A treatment apparatus, comprising:

a handpiece assembly;

an RF electrode assembly coupled to a distal portion of the handpiece, the RF electrode assembly including at least one RF electrode and a semiconductor member coupled to the RF electrode;

a cooling member positioned at least partially in the RF electrode assembly and configured to provide cooling to at least a portion of the RF electrode assembly; and

a pressure sensor coupled to the RF electrode assembly.

72. A treatment apparatus, comprising:

a handpiece assembly;

an RF electrode assembly coupled to a distal portion of the handpiece, the RF electrode assembly including at least one RF electrode and a semiconductor member coupled to the RF electrode, the at least one RF electrode and semiconductor member configured to provide a uniform current density to a tissue interface surface of the RF electrode assembly; and

a cooling member positioned at least partially in the RF electrode assembly and configured to provide cooling to at least a portion of the RF electrode assembly.

73. A treatment apparatus, comprising:

a handpiece assembly;

an RF electrode assembly coupled to a distal portion of the handpiece, the RF electrode assembly including at least one RF electrode and a semiconductor member coupled to the RF electrode, the at least one RF electrode and semiconductor member, wherein an impedance of the RF electrode is larger at its periphery; and

a cooling member positioned at least partially in the RF electrode assembly and configured to provide cooling to at least a portion of the RF electrode assembly.

74. A treatment apparatus, comprising:

a handpiece assembly;

an RF electrode assembly coupled to a distal portion of the handpiece, the RF electrode assembly including a tissue interface surface, at least one active RF electrode and a semiconductor member coupled to the RF electrode;

a passive RF electrode;

a cooling member positioned at least partially in the RF electrode assembly and configured to provide cooling to at least a portion of the RF electrode assembly; and

a feedback control coupled to the active RF electrode and the passive RF electrode, the feedback control providing an interruption of power delivery to the active RF electrode upon the occurance of an pre-determined event.

75. A treatment apparatus, comprising:

a handpiece assembly;

an RF electrode assembly coupled to a distal portion of the handpiece, the RF electrode assembly including tissue interrace surface, at least one RF electrode and a semiconductor member coupled to the RF electrode;

a cooling member positioned at least partially in the RF electrode assembly and configured to provide cooling to at least a portion of the RF electrode assembly; and

a feedback control coupled to the RF electrode and configured to maintain the RF electrode at a desired temperature without causing a shut down of power delivery to the RF electrode assembly due to a development of an excessive electrical impedance at the RF electrode assembly.